



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

To: Higher Education Committee

From: Joseph P. Frey

Subject: Emergency Adoption of Proposed Regulations to Allow Individuals with Advanced Degrees in Science, Technology, Engineering, and Mathematics and Related Teaching Experience at the Postsecondary Level to Obtain a Teaching Certificate in Earth Science, Biology, Chemistry, Physics, Mathematics or in a Closely Related Field

Date: January 24, 2011

Authorizations:

### **SUMMARY**

#### **Issue for Decision**

Should the Board of Regents adopt as an emergency measure the proposed amendment to allow individuals with advanced degrees in Science, Technology, Engineering and Mathematics (STEM) and related teaching experience at the postsecondary level to obtain a teaching certificate in Earth Science, Biology, Chemistry, Physics, Mathematics or in a Closely Related Field?

#### **Reason(s) for Consideration**

Review of policy.

#### **Proposed Handling**

The proposed amendment is submitted to the Higher Education Committee for adoption as an emergency measure at its February 2011 meeting.

#### **Procedural History**

At its September 2010 meeting, the Board of Regents approved the conceptual framework to allow college faculty with an advanced degree in STEM subjects and related teaching experience at the postsecondary level to become certified in STEM related subject areas.

At its December 2010 meeting, the Board of Regents discussed a draft regulation creating an expedited pathway to certification for such college faculty. However, the Board requested revisions to the regulation to address concerns expressed by several members of the Board of Regents about requiring such candidates to complete additional pedagogical coursework before obtaining certification.

### Background Information

Supply and demand data has shown that in many regions of New York there is a shortage of certified teachers in the areas of science and mathematics. To address this issue, the proposed regulations have been developed to create an expedited pathway for individuals with advanced degrees in STEM and related teaching experience at the postsecondary level to become certified teachers in mathematics or one of the sciences or a closely related field.

At its December meeting, the Board of Regents discussed an alternative pathway for individuals holding a graduate degree in one of the STEM areas, with at least two years of satisfactory teaching experience at the postsecondary level, to become certified as a secondary or middle level teacher of math or one of the sciences. The proposal discussed at the December meeting would have required all such candidates to obtain at least six credits of undergraduate pedagogical core study or four credits of graduate pedagogical study.

Board members expressed concerns that requiring additional college coursework for individuals with experience teaching at the college level would be a disincentive for such candidates from pursuing this avenue to secondary level teaching. We have revised the proposal and are proposing an option for such candidates to obtain a Transitional G certificate which would allow an individual to teach math or one of the sciences at the middle or secondary level without completing additional pedagogical study for two years. The district would commit to providing mentoring and appropriate professional development in the areas of pedagogy during the period that the teacher is employed on a Transitional G certificate. After two years of successful teaching experience with the district on a Transitional G certificate the teacher would be eligible for the initial certificate in that subject area.

For individuals who meet the other requirements but do not have an offer of employment by a school district they would still have the option of completing six credits of undergraduate pedagogical core study or four credits of graduate pedagogical study.

Below is a summary of the major requirements for the Initial certificate and Transitional G certificate through this expedited STEM pathway.

#### Requirements for the Initial Certificate:

1. Graduate Degree in one of the STEM fields; and
2. Graduate Major in the subject, or closely related subject area, of the certificate sought; and

3. At least two years of satisfactory teaching experience at the postsecondary level in the certificate area to be taught or in a closely related subject area; and
4. Successful completion of the Liberal Arts and Sciences Test, and
5. Either “a” or “b” below:
  - a) at least six credits of undergraduate pedagogical core study or four credits of graduate pedagogical study for the initial certificate in the area of the candidate’s certificate. The pedagogical core study shall include study in the methods of teaching in the certificate area; teaching students with disabilities; curriculum and lesson planning aligned with the New York State Learning Standards; along with classroom management and teaching at the developmental level of students to be taught.
  - b) two years of satisfactory secondary or middle level teaching experience in the subject area on a Transitional G certificate.

Requirements for the Transitional G Certificate:

1. Graduate Degree in one of the STEM fields; and
2. Graduate Major in the subject, or closely related subject area, of the certificate sought; and
3. At least two years of satisfactory teaching experience at the postsecondary level in the certificate area to be taught or in a closely related subject area; and
4. Successful completion of the Liberal Arts and Sciences Test; and
5. Commitment for employment from a school district or BOCES that will provide Mentoring and 70 hours of Professional Development over a two year period, targeted toward appropriate pedagogical skills.

Enactment of these emergency regulations does not preclude consideration of additional input and comments from the field. Following action by the Board of Regents, a Notice of Proposed Rule Making will be published in the State Register on March 2, 2011. There will be a 45-day public comment period on the proposed regulations. Such comment may warrant amendments to the regulatory language prior to confirmation as a permanent rule. However, it is critical that the Board of Regents adopt the proposed regulations now to address the shortage of certified teachers in the science and mathematics certification areas. A statement of facts and circumstances justifying the emergency action is attached.

Recommendation

VOTED: That a new subparagraph a new paragraph (45) of subdivision (b) be added to Section 80-1.1; that subparagraph (i) of paragraph (2) of subdivision (a) of section 80-3.3 be amended; that clause (c) of subparagraph (ii) of paragraph (3) of subdivision (a) of section 80-3.7 be amended and a new section 80-5.22 is added to the Regulations of the Commissioner of Education, effective February 15, 2011, as an emergency action upon a finding by the Board of Regents that such action is necessary

to protect the general welfare of the public to address the demonstrated shortage of certified teachers in science and mathematics in grades 5-9 and 7-12.

#### Timetable for Implementation

If adopted as an emergency measure at the February Regents meeting, the proposed amendment will become effective on February 15, 2011. A second emergency adoption will be necessary at the May 2011 Regents meeting to ensure that the regulations remain continuously in effect until the regulation becomes effective as a permanent rule on June 8, 2011.

AMENDMENT TO THE REGULATIONS OF THE COMMISSIONER OF EDUCATION

Sections 207, 305, 3001, 3004 and 3006 of the Education Law.

1. A new paragraph (45) of subdivision (b) is added to Section 80-1.1 of the Regulations of the Commissioner of Education, effective February 15, 2011, to read as follows:

(45) Transitional G certificate means the first teaching certificate obtained by a candidate who holds an appropriate graduate degree in science, technology, engineering or mathematics and has two years of acceptable experience teaching in a post-secondary institution, that qualifies that individual to teach in the public schools of New York State, subject to the requirements and limitations of this Part, and excluding the provisional certificate, initial certificate, internship certificate, conditional initial certificate, transitional A certificate, transitional B certificate and transitional C certificate.

2. Subparagraph (i) of paragraph (2) of subdivision (a) of section 80-3.3 of the Regulations of the Commissioner of Education is amended, effective February 15, 2011, to read as follows:

(i) [The] (a) Except as otherwise provided in subdivision (b) of this section, the candidate shall submit evidence of having achieved a satisfactory level of performance on the New York State Teacher Certification Examination liberal arts and sciences test, written assessment of teaching skills, and content specialty test(s) in the area of the certificate, except that a candidate seeking an initial certificate in the title of Speech and Language Disabilities (all grades) shall not be required to achieve a satisfactory level of performance on the content specialty test.

(b) Examination requirement for candidates with a graduate degree in science, technology, engineering or mathematics and two years of post-secondary teaching experience in the area of the certificate sought. Any candidate seeking an initial certificate in earth science,

biology, chemistry, physics, mathematics or in a closely related field as determined by the Department in (grades 5-9) or(grades 7-12) and who is seeking an initial certificate through individual evaluation under section 80-3.7(a)(3)(ii)(c) shall not be required to achieve a satisfactory level of performance on the written assessment of teaching skills examination or the content specialty test.

3. Clause (c) of subparagraph (ii) of paragraph (3) of subdivision (a) of section 80-3.7 of the Regulations of the Commissioner of Education is amended, effective February 15, 2011, to read as follows:

(c) For candidates with a graduate degree in science, technology, engineering or mathematics and two years of postsecondary teaching experience in the certificate area to be taught or in a closely related subject area acceptable to the Department, who apply for a certificate or license on or after February 11, 2011 in earth science, biology, chemistry, physics, mathematics or a closely related field, the candidate shall not be required to meet the general requirements in paragraph (2)(iii)(iv) or (v) of subdivision (a) of this section. However, the candidate shall meet the following requirements:

(1) Degree completion. The candidate shall possess a graduate degree in science, technology, engineering or mathematics from a regionally or nationally accredited institution of higher education, a higher education institution that the Commissioner deems substantially equivalent, or from an institution authorized by the Board of Regents to confer degrees and whose programs are registered by the Department. The candidate shall have completed a graduate major in the subject of the certificate sought, or in a related field approved by the department for this purpose.

(2) Post-secondary teaching experience. The candidate must show evidence of at least two years of satisfactory teaching experience at the post-secondary level in the certificate area to be taught or in a closely related subject area acceptable to the Department.

(3) Pedagogical study or two years of satisfactory teaching experience in a school district under a Transitional G certificate. The candidate shall complete one of the following:

(i) at least six credits of undergraduate pedagogical core study or four credits of graduate pedagogical study for the initial certificate in the area of the candidate's certificate, as prescribed for the certificate title in this paragraph, which shall include study in the methods of teaching in the certificate area, teaching students with disabilities; curriculum and lesson planning aligned with the New York State Learning Standards; and classroom management and teaching at the developmental level of students to be taught; or

(ii) at least two years of teaching experience in a school district while the candidate holds a Transitional G certificate under this Part.

4. Section 80-5.22 of the Regulations of the Commissioner is added, effective February 15, 2011, as follows:

§80-5.22 Transitional G certificate for career changers and others holding a graduate or higher degree in science, technology, engineering or mathematics and with at least two years of acceptable post-secondary teaching experience.

(a) General requirements.

(1) Time validity. The transitional G certificate shall be valid for two years.

(2) Limitations. The transitional G certificate shall authorize a candidate to teach only in a school district for which a commitment for employment has been made. The candidate shall meet the requirements in each of the following paragraphs:

(1) Education. A candidate shall hold a graduate degree in science, technology, engineering or mathematics from a regionally or nationally accredited institution of higher education, a higher education institution that the Commissioner deems substantially equivalent, or from an institution authorized by the Board of Regents to confer degrees. A candidate shall complete study in the means for identifying and reporting suspected child abuse and

maltreatment, which shall include at least two clock hours of coursework or training in the identification and reporting of suspected child abuse or maltreatment in accordance with the requirements of section 3004 of the Education Law. In addition, the candidate shall complete at least two clock hours of coursework or training in school violence prevention and intervention, as required by section 3004 of the Education Law, which is provided by a provider approved or deemed approved by the Department pursuant to Subpart 57-2 of this Title.

(2) Examination. The candidate shall submit evidence of having achieved a satisfactory level of performance on the New York State Teacher Certification Examination liberal arts and sciences test.

(3) Post-secondary teaching experience. The candidate shall submit evidence of at least two years of satisfactory teaching experience at the post-secondary level in the certificate area to be taught or in a closely related subject area acceptable to the Department.

(4) Employment and support commitment. The candidate shall submit satisfactory evidence of having a commitment from a school district of at least two years of employment as a teacher with the school district in the area of the certificate sought, which shall include mentoring and at least 70 hours of professional development targeted toward appropriate pedagogical skills, over the two years of employment.



STATEMENT OF FACTS AND CIRCUMSTANCES  
WHICH NECESSITATE EMERGENCY ACTION

Supply and demand data has shown that, in many regions of New York, there is a shortage of certified teachers in the areas of science and mathematics in grades (5-9) and (7-12). To address this issue, the proposed regulations have been developed to create an expedited pathway for individuals with advanced degrees in science, technology, engineering and mathematics and with at least two years of teaching experience at the post-secondary level to become certified teachers in these shortage areas.

The proposed amendment ensures that individuals prepared through the expedited pathway are effective teachers through rigorous admission requirements and additional pedagogical study or professional development while teaching under a Transitional G certificate: To be eligible for the expedited pathway, the candidate must hold a graduate degree in science, technology, engineering or mathematics; have a graduate major in the subject or a closely related subject area of the certificate sought; and have at least two years of satisfactory teaching experience at the post-secondary level in the certificate area to be taught or in a closely related subject area. At this point, the candidate would be eligible to receive a Transitional G teaching certificate, which would authorize the candidate to teach in the public schools of the State for two years, while being mentored and supported with appropriate professional development.

Emergency action at the February 2011 Board of Regents meeting is necessary for the preservation of the general welfare to address the State's persistent shortages of certified teachers who are qualified to teach in one of the sciences or mathematics at the 5-9 or 7-12 grade level. The proposed amendment is designed to support the

Department's continuing efforts to certify a sufficient number of properly qualified candidates to fill the need for science and mathematics teachers in the State's schools. Candidates who meet the requirements of the new Transitional G certificate will be able to serve as teachers in the classroom in these shortage areas immediately.

It is anticipated that the proposed amendment will be presented to the Board of Regents for adoption as a permanent rule at its May 2011 meeting, which is the first scheduled meeting after the expiration of the 45-day public comment period mandated by the State Administrative Procedures Act.